SPECIFICATION AMENDMENTS

On page 4, line 1, please amend as follows:

"**BRIEF** SUMMARY OF THE INVENTION"

On page 4, lines 12-15, please amend as follows:

"The resulting conditions, in either the channel equalization mode or the system identification mode, <u>are</u> ~~is~~ used as the initial condition for the next cycle. If desired, 'a priori' information may be used to provide a more accurate initial condition; this may include offline channel modeling and/or characterization of the channel's response."

On page 6, lines 4-9, please amend as follows:

"~~The above referenced description of the summary of the invention captures some, but not all, of the various aspects of the present invention. The claims are directed to some other of the various other embodiments of the subject matter towards which the present invention is directed. In addition, other aspects, advantages and novel features of the invention will become apparent from the following detailed description of the invention when considered in conjunction with the accompanying drawings.~~

<u>The present invention is directed to apparatus and methods of operation that are further described in the following Brief Description of the Several Views of the Drawings, the Detailed Description of the Invention, and the claims. Other features and advantages of the present invention will become apparent from the following detailed description of the invention made with reference to the accompanying drawings.</u>"

On page 7, line 1: please amend as follows:

"BRIEF DESCRIPTION OF THE <u>SEVERAL VIEWS OF THE</u> DRAWINGS".

On page 26, lines 21-22: please amend as follows:

"In this mode of operation, the repeated adaptation operation, ~~which~~ may be referred to as the cyclic adaptation within the functional block 935."

On page 30, lines 10-11: please amend as follows:

"Then, using <u>repeated copies of</u> this received TS <u>(e.g., repeated TSs as depicted in the diagram)</u>, a channel estimate is made of a communication channel as shown in a block 1320."

On page 53, starting at line 1 until page 53, line 13: please amend the "ABSTRACT" section as follows:

"<u>A novel approach of repeated adaptation is provided that can be applied to either one or both of channel estimation and/or equalization. From an incoming data packet that includes data and a training sequence, a modified data packet is generated that includes the data, the training sequence, and at least one additional copy of the training sequence. From the format of this modified data packet, the same training sequence can be used over and over again a desired number of times to perform channel estimation and subsequent calculation of equalizer tap coefficients. Alternatively, the same training sequence can be used over and over again a desired number of times to converge the equalizer coefficient taps directly without doing any preliminary channel estimation. Generally, either of these approaches can be characterized as a cyclic adaptation operation that provides improved performance without incurring any reduction in throughput of the communication channel.</u>

~~Channel estimation and/or equalization using repeated adaptation. Repeated adaptation approach is performed within the system identification mode and/or the channel equalization mode. In one embodiment, the repeated adaptation generates a very accurate estimate of the communication channel, and then direct tap computation is performed to compute the optimal equalizer tap coefficients corresponding to the channel estimate. In another embodiment, the repeated adaptation is used to converge the equalizer tap coefficients directly without obtaining an estimate of the channel first. The repeated adaptation operates on the same training sequence for multiple cycles. The resulting conditions, in either the channel equalization mode or the~~

4

channel estimation/system identification mode, may then be used as the initial condition for the next cycle. If desired, 'a priori' information may be used to provide a more accurate initial condition; this may include offline channel modeling and/or characterization of the communication channel and its response."